

Claims

1. A pluggable mechanism for wireless remote control, comprising:
 - a control panel for controlling an object, said control panel having a receptacle; and
 - a pluggable unit having a plug that is suitable to be plugged into said receptacle of said control
- 5 panel, and being capable of receiving remote wireless control commands, said pluggable unit cooperates with said control panel to control said controlled object in response to said received wireless control commands when said pluggable unit being plugged into said receptacle of said control panel.
2. A pluggable mechanism for wireless remote control of claim 1, wherein said pluggable unit
- 10 comprises:
 - a wireless module for receiving said remote wireless control commands and generating control signals in response to said wireless control commands; and
 - an electrical control means for controlling said controlled object in response to said control signals generated by said wireless module.
- 15 3. A pluggable mechanism for wireless remote control of claim 1, wherein said pluggable unit comprises,
 - a wireless module for receiving said remote wireless control commands and generating control signals in response to said wireless control commands; and
 - wherein said control panel comprises,
- 20 an electrical control means for controlling said controlled object in response to said control signals generated by said wireless module.
4. A pluggable mechanism for wireless remote control of claim 1, wherein said pluggable unit is capable of receiving wireless control commands transmitted via radio frequency, infrared, laser or ultrasonic wave.
- 25 5. A pluggable mechanism for wireless remote control of claim 2 , wherein said electrical control

means is one selected from a group consisting of electrical switch, digital potentiometer, voltage divider, switch matrix and PWM.

6. A pluggable mechanism for wireless remote control of claim 2 , wherein said wireless module in said pluggable unit comprises:

5 wireless communication means for enabling wireless communication function and receiving said wireless control commands;

 a microprocessor for executing a preprogrammed instruction program, processing said wireless control commands received by said wireless communication means and generating control signals; and

10 a control logic interface for outputting said control signals generated by said microprocessor.

7. A pluggable mechanism for wireless remote control of claim 2 , wherein said wireless module in said pluggable unit comprises:

 wireless communication means for enabling wireless communication function and receiving said wireless control commands;

15 a CPU for executing preprogrammed program instructions, implementing a communication protocol stack, processing said wireless control commands received by said wireless communication means and generating control signals;

 memory means for storing said wireless communication protocol stack and one or more application programs for the processing of said CPU; and

20 a control logic interface for outputting said control signals generated by said microprocessor.

8. A pluggable mechanism for wireless remote control of claim 2, wherein said pluggable unit further comprises an AC-DC converter for converting an alternating current into a direct current and supplying to said wireless module.

9. A pluggable mechanism for wireless remote control of claim 8, wherein said plug of said
25 pluggable unit has three pins, said control panel further has a manual switch, two input terminals and two output terminals, and said receptacle of said control panel having three contacts;

wherein said two input terminals of said control panel are coupled to two lines of a power supply respectively, a first contact and a second contact of said three contacts of said receptacle are coupled to said two input terminals, a third contact of said three contacts is coupled to an output of said manual switch; and

5 a first pin and a second pin of said three pins of said pluggable unit are coupled to two inputs of said AC-DC converter respectively, and said electrical control means is connected between said second pin and a third pin of said three pins.

10. A pluggable mechanism for wireless remote control of claim 3, wherein said pluggable unit further comprises an AC-DC converter for converting an alternating current into a direct current and
10 supplying to said wireless module.

11. A pluggable mechanism for wireless remote control of claim 10, wherein said plug of said pluggable unit has four pins, said control panel further has a manual switch, two input terminals and two output terminals, and said receptacle of said control panel has four contacts;

15 wherein said two input terminals of said control panel are coupled to two lines of a power supply respectively, a first contact and a second contact of said four contacts are coupled to said two input terminals of said control panel respectively, a third contact and a fourth contact of said four contacts are coupled to two signal inputs of said electrical control means respectively, and said manual switch is connected to said manual switch in parallel; and

20 a first pin and a second pin of said four pins of said pluggable unit are coupled to two inputs of said AC-DC converter respectively, a third pin and a fourth pin of said four pins of said pluggable unit are coupled to two outputs of said wireless module respectively.

12. A pluggable mechanism for wireless remote control of claim 3, wherein said control panel further comprises an AC-DC converter for converting an alternating current into a direct current.

25 13. A pluggable mechanism for wireless remote control of claim 8, wherein said plug of said pluggable unit has three pins, said control panel further has a manual switch, two input terminals and two output terminals, and said receptacle of said control panel has three contacts;

wherein said two input terminals of said control panel are coupled to two lines of a power supply respectively, a first contact and a second contact of said three contacts of said receptacle are coupled to two outputs of said AC-DC converter respectively, a third contact of said three contacts is coupled to a signal input of said electrical control means, said manual switch is connected with said electrical control means in parallel; and

a first pin and a second pin of said three pins of said pluggable unit are coupled to two power inputs of said wireless module respectively, a third pin of said three pins is coupled to an output of said wireless module.

14. A pluggable mechanism for wireless remote control of claim 3, wherein said control panel further comprises a microprocessor connected to said receptacle for executing a preprogrammed instruction program and processing said control signals from said pluggable unit; and a control logic interface for connecting said microprocessor to said electrical control means.

15. A pluggable unit having a plug and being capable of receiving remote wireless control commands, wherein said pluggable unit cooperates with a control panel to control an object in response to said received wireless control commands when said pluggable unit being plugged into a receptacle of said control panel.

16. A pluggable unit of claim 15, wherein said pluggable unit further comprises a wireless module for receiving said remote wireless control commands and generating control signals in response to said wireless control commands.

17. A pluggable unit of claim 16, wherein said wireless module is capable of receiving wireless control commands transmitted via radio frequency, infrared, laser or ultrasonic wave.

18. A pluggable unit of claim 16, wherein said wireless module comprises:

wireless communication means for enabling wireless communication function and receiving said wireless control commands;

a microprocessor for executing a preprogrammed instruction program, processing said wireless

control commands received by said wireless communication means and generating control signals;
and

a control logic interface for outputting said control signals generated by said microprocessor.

19. A pluggable unit of claim 16, wherein said wireless module comprises:

5 wireless communication means for enabling wireless communication function and receiving said wireless control commands;

a CPU for executing a preprogrammed instruction program, implementing a communication protocol stack, processing said wireless control commands received by said wireless communication means and generating control signals;

10 memory means for storing said wireless communication protocol stack and one or more application programs for the processing of said CPU; and

a control logic interface for outputting said control signals generated by said microprocessor.

20. A pluggable unit of claim 16, wherein said pluggable unit further comprises a electrical control means for controlling said controlled object in response to said control signals generated by said

15 wireless module.

21. A pluggable unit of claim 20, wherein said pluggable unit further comprises an AC-DC converter for converting an alternating current into an direct current.

22. A pluggable unit of claim 21, wherein said plug of said pluggable unit has three pins, a first and a second pin of which are coupled to two inputs of said AC-DC converter respectively, and said

20 electrical control means is connected between said second pin and a third pin of said three pins.

23. A pluggable unit of claim 16, wherein said pluggable unit further comprises an AC-DC converter for converting an alternating current into an direct current.

24. A pluggable unit of claim 23, wherein said plug of said pluggable unit has four pins, a first pin and a second pin of which are coupled to two inputs of said AC-DC converter respectively, and a

third pin and a fourth pin of which are coupled to two outputs of said wireless module.

25 A pluggable unit of claim 16, wherein said plug of said pluggable unit has three pins, a first pin and a second pin of which are coupled to two power inputs of said wireless module, and a third pin of which is coupled to an output of said wireless module.

- 5 26. A wireless remote control system, comprising:
- a remote device; and
 - a pluggable mechanism for wireless remote control, said pluggable mechanism comprising:
 - a control panel for controlling an object, said control panel having a receptacle; and
 - a pluggable unit having a plug that is suitable to be plugged into said receptacle of said control
- 10 panel, and being capable of receiving remote wireless control commands, said pluggable unit cooperates with said control panel to control said controlled object in response to said received wireless control commands when said pluggable unit being plugged into said receptacle of said control panel.